



Oregon

Theodore R. Kulongoski, Governor

Department of Forestry

Forest Grove District
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Memorandum

Subject: FY06 AOP Modification; The Zeus' Boots Timber Sale
To: Bob Gustavson; Assistant District Forester
From: Erik Marcy; Unit Forester
Date: September 25, 2006



"STEWARDSHIP IN FORESTRY"

Based on *Phellinus* surveys and our most recent reconnaissance of the planned FY06 timber sale known as Zeus' Boots, I am hereby recommending a major modification to this sale. At this time the Marketing Unit feels that the best silvicultural decision is to emphasize clearcutting over partial cutting due to the extensive root rot problem (the DFC is GEN).

The recommendation is as follows:


- Change Area 2 from partial cut to modified clearcut.
- Change Area 4 from partial cut to modified clearcut. Also, move the west boundary of Area 4 down to the east side of the stream.
- Drop Area 3 from the sale.

The result would be as follows:

- The new Area 1 is an 80 acre Modified Clearcut.
- The new Area 2 is a 69 acre Modified Clearcut.
- The new Areas 3 and 4 are each 2 acre Partial Cuts.

This new acreage mix should yield approximately 5.9 MMBF, about .7 MMBF more than as originally planned. Attached are the old Zeus' Boots Exhibit A, the new Zeus' Boots Exhibit A, an updated pre-operations report, and the updated FY06 AOP summary tables. This modification has been reviewed and accepted by ODF resource specialists.

If you concur with this recommendation please sign below and forward to Dave for his signature. If you both approve I will send the updated information to Salem. Thank you.

Approved: 
Bob Gustavson; Assistant District Forester

9-27-06
Date


David L. Johnson; District Forester

9/28/06
Date

Pre-Operations Report

Operation Name: Zeus's Boots

County: Clatsop/Columbia

Management Basin: McGregor

Legal Description: Sec 31, T04N, R05W, W.M.
Sec 36, T04N, R06W, W.M.

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres
1	Modified Clearcut	80	80
2	Modified Clearcut	69	69
Total	Regeneration Harvest	149	149
3	Moderate Partial Cut	2	2
4	Moderate Partial Cut	2	2
Total	Partial Cut Harvest	4	4

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

Slopes have a southerly aspect and range from 10% to 65%. Elevations range from 1000 to 1300 feet. The major soil types are Keasey and Pinochle. The sale areas occupy the ridges to the lower slopes.

The landforms are gentle to moderate slopes on and below the spur-ridge divides of several unnamed tributaries of the North Fork of Wolf Creek. The underlying rock is sedimentary origin Cowlitz Formation, basaltic, marine sandstone.

II. CURRENT STAND CONDITION:

The sale areas have been inventoried using the Stand Level Inventory procedure and the stand has been classified as 100% UDS.

The stand is composed almost entirely of Douglas-fir. Many trees have poor live crown ratios and poor height to diameter ratios.

None of the sale areas have had prior stand management.

The stands contain significant amounts of *Phellinus weirii*.

The understory in all the sale areas is comprised primarily of vine maple, sword fern, salal, dwarf Oregon grape, and huckleberry. Average ground cover throughout all areas is estimated to be approximately 90% based on SLI data.

There are moderate amounts of hard snags and down woody debris, in decay classes 0,1 and 2, created from *Phellinus weirii*. There is an estimated 2- 4 hard snags per acre (12" DBH +) and 600 ft³ of DWD. Estimates are based on SLI data.

Table 2. Stand Inventory Information

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Net Acres ²
1	MC ⁴	7244	DF	49	16	249	182	62	80
2	MC	7238	DF	53	17	112	146	35	69
3	PC-M	7250	DF	56	17	218	136	53	2
		<i>Target</i>			20	140	65	31	2
4	PC-M	7250	DF	56	17	218	136	53	2
		<i>Target</i>			20	140	65	31	2

¹ The source of stand inventory information is from SLI in 2004.

² The acres are based on GIS and exclude existing and planned roads, stream buffers, non-thinnable areas and green tree retention areas. Clear cut acres are not contiguous and do not exceed 120 acres

³ The Target row for partial cut areas identifies expected stand characteristics (DBH, BA, TPA and SDI) after harvesting has been completed.

⁴ MC is Modified Clearcut, PC-M is Moderate Partial Cut,

III. DESIRED STAND CONDITION/VISION:

The harvest operation will develop Areas 1 and 2 into REG structure in the short term. Areas 3 and 4 will remain as UDS in the short term. According to the Forest Grove District's landscape design for the McGregor basin, the desired future condition (DFC) for Areas 1 and 2 is GEN. Areas 3 and 4 have a DFC - OFS.

The anticipated management pathway for Areas 3 and 4 is to conduct a 1st entry operation for density management. Reducing the SDI, by harvesting some of the conifer, will maintain vigorous growth of the overstory and allow understory development. This will enhance the biological diversity and hasten the transition towards OFS.

Areas 1 and 2 will be used to grow commercial crops of red alder until the Douglas-fir stumps have decomposed. At the time these acres could be returned to conifer stands.

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Net Acres
1	7244	UDS	REG	GEN	80
2	7238	UDS	REG	GEN	69
3	7250	UDS	UDS	OFS	2
4	7250	UDS	UDS	OFS	2

¹ The stand is expected to develop into this condition in the five to ten years after this operation is completed, except in REG stands which occur after harvest.

IV. PROPOSED MANAGEMENT PRESCRIPTION/PATHWAY:

Partial Cut - Moderate:

Areas 3 and 4 are PC-M, with a target SDI of approximately 31.

Douglas-fir will be selected for harvest. All other species will be reserved. The stand will be thinned to a target basal area of 130 to 150 square feet. The average DBH of the residual stand will be approximately 20 inches. Residual 65 trees per acre will be the trees that have the largest DBH and height, and are of the best form and vigor.

Understory vegetation will be enhanced from the additional growing spaces made available by thinning the overstory. A second entry thinning 20 – 25 years after this initial thinning will maintain overstory tree vigor and grow while allowing the understory to advance vertically leading to a more complex stand structure and eventually becoming Older Forest Structure.

Modified Clearcut:

In Areas 1 and 2, the majority of trees within the posted area will be harvested.

A variety of methods will be used to achieve green tree retention requirements, which include green tree retention areas, stream buffers, and a scenic highway buffer. These methods will be used in combination to meet the green tree requirements of (5 trees per acre) provided in the Forest Management Plan (FMP).

Green tree retention for this sale is expected to result in approximately 9 trees per acre. From these residual green trees, approximately 150 trees shall be topped to create hard snags. Snags shall have a DBH of at least 18 inches, and be at least 60 feet in height. Due to the significant presence of *Phellinus* in this area it is anticipated the additional snags will be recruited over time.

All existing DWD will be reserved in the sale areas. DWD recruitment is expected through mortality, windthrow of residual trees, felled snags, and logging slash.

Existing snags determined not to be a safety hazard will be retained and any felled snags will be left for down wood.

Areas 1 and 2 will be site prep sprayed to kill the completing brush and then planted with red alder. Two 25 year old rotations of red alder will be needed before these acres can be returned to conifer stands. The alder will need to be precommercially thinned at about age 10 to maintain vigorous tree growth.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	%	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Planned Quarter: 4			

	Conifer	Hardwood	Total
Net Volume (MBF)	5,900		5,900
Stumpage Value (\$/MBF)*	\$390		
Estimated Gross Value	\$2,360,000		\$2,297,000
		Project Costs:	\$172,000
		Estimated Net Value:	\$2,125,000

*Combined Douglas-fir and hemlock stumpage values

VI. TRANSPORTATION PLANNING AND HARVESTING:

The sale areas are accessed via North Fork Wolf Creek Road and through Longview Fibre ownership via the Sunset Grade Road. These are both all-weather, crushed rock roads. An access easement has been obtained from Longview Fibre. Road use fees will not apply.

Approximately 1.12 miles of road will be constructed to provide access to cable yarding landing locations. New construction is limited to ridgetops and gentle to moderate sideslopes. Proposed roads do not cross any perennial streams.

All haul roads will have high quality crushed rock or pit run surfacing. Roads will provide access to all timber within the sale area and allow for logging methods and hauling which will minimize impacts to soils, residual timber, streams, and riparian areas. Wet weather log hauling will be subject to limitations on loads per day.

Following harvest roads and skid trails within the sale areas will be evaluated for closure.

Project work and their estimated costs: 1.12 miles of construction at \$171,620.

The operation will be 60% cable yarding and 40% ground based yarding.

Table 5. Transportation Planning Summary (Miles).

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0	0	1.12	0
Improve	0	0	0	0
Maintain	0	6.5	0	0
Close/Block	0	0	0	0
Vacate	0	0	0	0

For determination of road class either use results of the Harvest and Habitat roads classifications, or if this information is not available then low use roads are spurs, medium use roads are collectors and high use roads are mainlines. Use these same criteria when comparing the total for all AOP sales to the IP plans.

VII. AQUATIC RESOURCES AND WATER QUALITY:

There are 3 unnamed small, Type F, streams adjacent to the sale areas. Portions of the sale areas are adjacent to the North Fork of Wolf Creek which is a large, Type F, stream. There are a few unnamed seasonal, Type N, streams within the sale areas, which are tributary to the small, Type F, streams.

Riparian area stand types along these streams are generally hardwood/conifer mixed.

The haul route and logging operation is in proximity to streams (North Fork Wolf Creek) in which listed fish (Coho salmon) are present. Appropriate restrictions for hauling will be imposed to avoid occurrence of any negative impacts.

Stream buffers within harvest unit boundaries will be managed according to FMP Riparian Strategies. The riparian areas will be reviewed during sale layout for current stand conditions and/or operational constraints, for implementing FMP strategies.

In order to protect water quality during active operations, a variety of methods will be used to prevent sediment from entering live streams. These methods include (but are not limited to) maintaining culverts and other road drainage structures, using sediment control devices in road ditches when necessary, and seasonal restrictions on logging and hauling operations. Culvert installment and replacement in live streams will be conducted between July 1 and August 31. Operations outside of this period will be reviewed with ODFW.

VIII. T&E SPECIES CONSIDERATIONS:

The sale areas have been reviewed with the ODF Northwest Oregon Area Biologist (Area Biologist).

Surveys for northern spotted owls were conducted in 2004 and 2005 due to the presence of potentially suitable spotted owl habitat within and adjacent to the timber sale area. There were no responses. All surveys were/will be conducted in accordance with USFWS protocol.

Zeus's Boots was surveyed for marbled murrelets in 2004 and 2005 due to the presence of potentially suitable murrelet habitat adjacent to the sale area. The presence of murrelets was not detected. All surveys were/will be completed in accordance with PSG protocol.

This operation involves an activity that is listed in the National Marine Fisheries Service (NMFS) adopted rules under Section 4(d) of the Endangered Species Act. The sale area is in close proximity to a stream with listed fish. In addition, the haul route crosses or is in close proximity to a stream with listed fish. See Section VII and IX of this report for a discussion of protective measures.

The sale areas were checked against the Oregon Natural Heritage Program (ONHP) database of known listed plant locations, as well as against local records in the Land Management Classification System (LMCS). No listed plant records were identified within or adjacent to the sale areas.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

The initial assessment from the geotechnical specialist is moderate. There are a few scattered steep slopes in area 2. The geotechnical specialist will be consulted during sale layout and the need for field review will be assessed.

X. RECREATION RESOURCES:

The sale area is designated as non-motorized in the Tillamook State Forest Comprehensive Recreation Plan (1993). The District Recreation Coordinator has reviewed this sale, and suggests:

No authorized trails are located within or adjacent to the sale area.

Recreational use common to this area includes hiking and hunting.

XI. CULTURAL RESOURCES:

The sale area was checked against the Tillamook State Forest Cultural Resource Inventory database. No cultural resource records were identified within the sale area. If any significant cultural resources are located during sale preparation, the Public Use Coordinator (ODF Salem Staff) will be consulted regarding potential protection measures.

XII. SCENIC RESOURCES:

Portions of Areas 1 and 2 have a visual classification of Level 2, moderate sensitivity. Visual impact will be minimal due to the design of residual tree placement in the sale area.

XIII. OTHER RESOURCE CONSIDERATIONS:

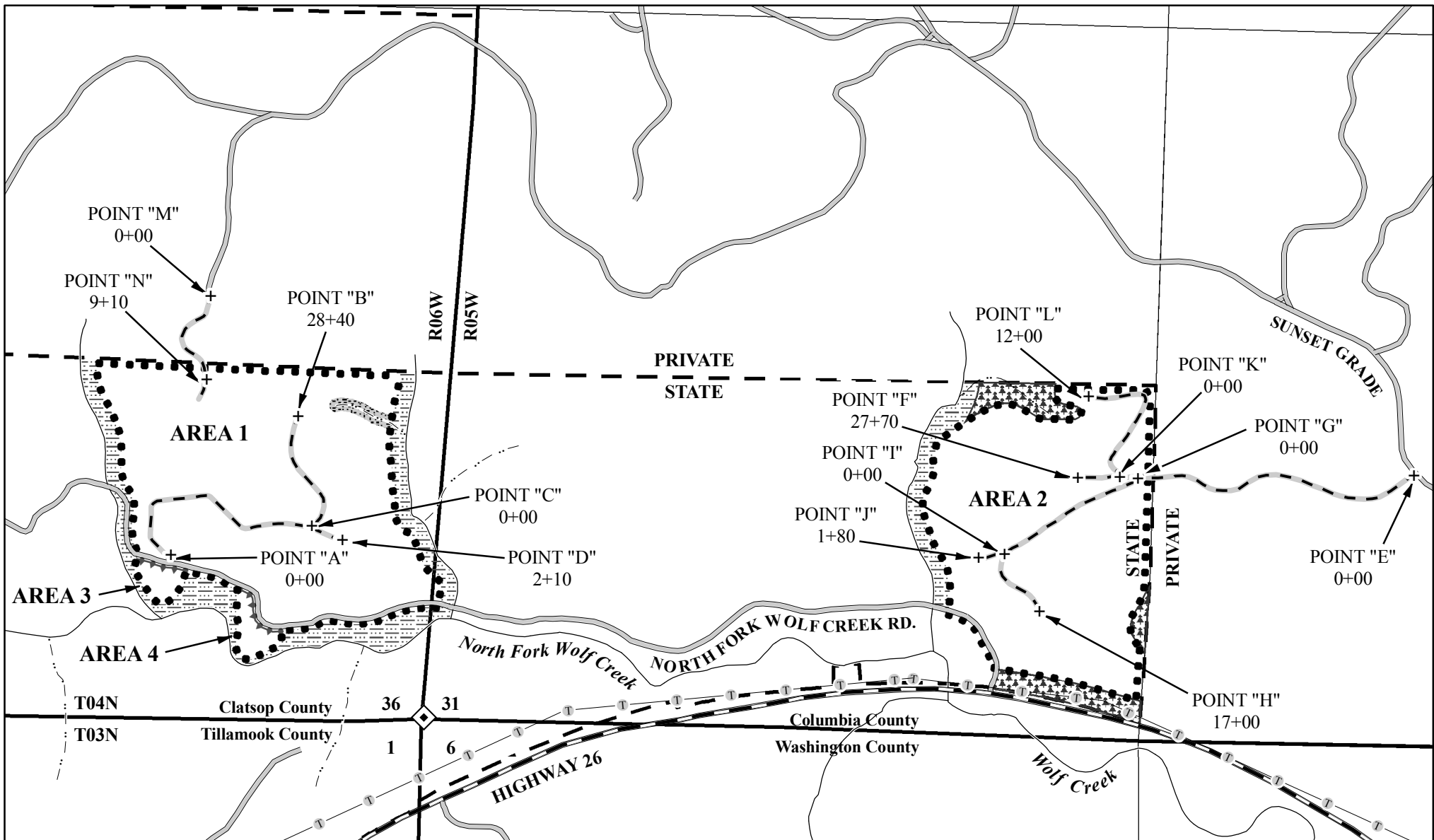
Property lines have been true blazed and posted.

All known survey corners and witness trees shall be protected from damage during any operations.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

Table 6. Land Management Classification Summary. This table summarizes the acres of Focused and Special Stewardship within the operations. Due to overlapping classifications under the Land Management Classification System, the acres summarized for each operational area in this table may exceed the net or gross acreage of the area. For example, a particular acre can be classified as Focused Stewardship for Aquatic and Riparian Habitat, Recreation, and Scenic resources.

Area	LMCS Subclass	Focused Stewardship	Special Stewardship
1	Aquatic and Riparian Habitat	16	0
	Visual	18	0
2	Aquatic and Riparian Habitat	20	2
	Visual	66	0
3	Aquatic and Riparian Habitat	1	1
	Visual	3	0



- LEGEND**
- Timber Sale Boundary
 - ◆◆◆◆ Area Boundary
 - ▨ Green Tree Retention Area
 - ▤ Posted Stream Buffer
 - ▥ Unposted Stream Buffer
 - +
 - Existing Roads
 - - - Surfaced Road Construction
 - Type F Stream
 - - - Type N Stream, Perennial
 - ▬ Highway
 - ⊕—⊕ Power Line
 - - - ODF Ownership

EXHIBIT "A"

OF TIMBER SALE CONTRACT NO. 341-07-25
ZEUS' BOOTS
PORTIONS OF SECTION 31, T04N, R05W, W.M.
AND SECTION 36, T04N, R06W, W.M.
COLUMBIA COUNTY AND CLATSOP COUNTY, OREGON

Scale
1:12000
1 inch = 1000 feet



APPROXIMATE NET ACREAGE		
AREA 1	80	ACRES (MC)
AREA 2	69	ACRES (MC)
AREA 3	2	ACRES (PC-M)
AREA 4	2	ACRES (PC-M)
TOTAL	153	ACRES

TABLE A-1: COMMERCIAL FOREST MANAGEMENT OPERATIONS - FINANCIAL SUMMARY

District: Forest Grove

Fiscal Year: 2006

Date: 09/15/2006

Operation	Payment Type	Fund %		County	Sale Quarter	Net Acres		Volume (MMBF)			Value		
		BOF	CSL			Partial Cut	Regen	Con-ifer	Hard-woods	Total	Gross	Projects	Net
C.C. Rider	R	0%	100%	Wash	1		62	1.9		1.9	\$760,000	\$0	\$760,000
Chazmo	R	100%	0%	Col	3	188		4.0		4.0	\$1,600,000	\$72,000	\$1,528,000
Das Butte	R	100%	0%	Wash	4		111	5.0		5.0	\$2,000,000	\$35,000	\$1,965,000
East Rogers	R	100%	0%	Till	1		71	2.5		2.5	\$1,000,000	\$106,000	\$894,000
Helibates	R	100%	0%	Till	4	329		4.5		4.5	\$1,350,000	\$120,000	\$1,230,000
Howdy Doty	R	100%	0%	Till	2	261		5.2		5.2	\$2,080,000	\$138,000	\$1,942,000
Moo Goo Pon Gon	R	100%	0%	Till	3	144		3.0		3.0	\$1,200,000	\$81,000	\$1,119,000
Mystree Thin	R	100%	0%	Till	3	181		3.3		3.3	\$1,320,000	\$102,000	\$1,218,000
Nehalem Crossing	R	100%	0%	Till	2	344		6.5		6.5	\$2,600,000	\$420,000	\$2,180,000
Seven C's	R	100%	0%	Till	4	348	71	6.5		6.5	\$2,600,000	\$152,000	\$2,448,000
SoMoNoFo	R	100%	0%	Clat/Col	2		115	5.0		5.0	\$2,250,000	\$77,000	\$2,173,000
Sunday Drive	R	100%	0%	Wash	1	488		4.8		4.8	\$1,680,000	\$314,000	\$1,366,000
Three Blind Mice	R	100%	0%	Wash	4	303		4.5		4.5	\$1,710,000	\$156,000	\$1,554,000
Top 'O Bell	R	100%	0%	Wash	1	306		4.6		4.6	\$1,840,000	\$160,000	\$1,680,000
Zeus's Boots	R	100%	0%	Clat/Col	4	4	149	5.9		5.9	\$2,360,000	\$172,000	\$2,188,000
Total:						2,896	579	67.2	0	67.2	26,350,000	2,105,000	\$24,245,000

Alternate Operations

Park Place	R	100%	0%	Wash	Alt.	238		3.1		3.1	\$1,240,000	\$35,000	\$1,205,000
Toucan Sam	R	100%	0%	Till	Alt.		98	3.5		3.5	\$1,575,000	\$15,000	\$1,560,000
Gregorian Cant	R	100%	0%	Clat	Alt.	118		2.5		2.5	\$700,000	\$44,000	\$646,000

TABLE A-2: COMMERCIAL FOREST MANAGEMENT OPERATIONS INTEGRATED FOREST MANAGEMENT STRATEGIES

District:		Forest Grove		Fiscal Year		2006		Date:		09/15/2006	
Operation	Area	Net Acres			Stand Structure Development Pathway			Green Trees	Comments		
		Regen cut	Partial Cut	Total	Current	Post-Harvest	Desired				
McGregor Basin											
SoMoNoFo	I	115		115	UDS	REG	GEN	7			
Zeus's Boots	I	80		80	UDS	REG	GEN	7			
	II	69		69	UDS	UDS	GEN				
	III		2	2	UDS	UDS	OFS				
	IV		2	2	UDS	UDS	OFS				
Wilark Basin											
Chazmo	I		57	57	UDS	UDS	LYR				
	II		61	61	UDS	UDS	LYR				
	III		12	12	CSC17%/LYR83%	LYR	LYR				
	IV		58	58	CSC50%/UDS50%	UDS	LYR				
Wheeler Basin											
C.C. Rider	I	53		53	UDS	REG	GEN	7			
	II	9		9	UDS	REG	GEN	7			
Nehalem Crossing	I		94	94	CSC20%UDS78%LYR2%	UDS	OFS				
	II		85	85	UDS	UDS	OFS				
	III		125	125	UDS	UDS	GEN54%LYR17%OFS30%				
	IV		24	24	UDS	UDS	OFS				
	V		16	16	UDS	UDS	OFS				
Gales Creek Basin											
Topo Bell	I		218	218	CSC83%/UDS17%	UDS	GEN				
	II		88	88	CSC18%/UDS82%	UDS	OFS				
Rogers Basin											
East Rogers	I	71		71	UDS	REG	GEN	7			
Helibates	I		329	329	UDS	UDS	GEN6%/LYR94%				
Seven C's	I		93	93	CSC	UDS	GEN				
	II		172	172	CSC	UDS	GEN96%/OFS4%				
	III		83	83	UDS	UDS	GEN40%/OFS60%				
	IV	71		71	UDS	REG	GEN	7			
Sunday Cr. Basin											

Sunday Drive	I		488	488	UDS	UDS	GEN86%/OFS14%		
Three Blind Mice	I		303	303	UDS	UDS	GEN62%LYR4%OFS37%		
Upper Salmonberry									
Das Butte	I	102		102	UDS	REG	GEN	7	
	II	9		9	CSC	REG	GEN	7	
Howdy Doty	I		203	203	UDS	UDS	GEN		
	II		58	58	CSC28%/UDS72%	UDS	OFS		
Moo Goo Pon Gon	I		144	144	CSC	UDS	GEN94%/LYR6%		
Mystree Thin	I		88	88	UDS	UDS	LYR89%/OFS11%		
	II		17	17	UDS	UDS	OFS		
	III		76	76	CSC7%/UDS93%	UDS	GEN7%/OFS24%		

Total	579	2896	3475	
Annual Range	338-1100	2365-3547	2703- 4053	

Average Per Acre	7
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Alternate Operations

McGregor									
Gregorian Cant	I		118	118	UDS	UDS	GEN		
Wheeler									
Park Place	I		206	206	CSC47%UDS45%LYR8%	UDS84%LYR16%	LYR24%/OFS76%		
	II		32	32	UDS	UDS	LYR		
	III		NA	NA	UDS	UDS	OFS		
Upper Salmonberry									
Toucan Sam	I	98		98	UDS	REG	GEN	7	

TABLE A-3: COMMERCIAL FOREST MANAGEMENT OPERATIONS - ROADS FINANCIAL SUMMARY

District: Forest Grove

Fiscal Year: 2006

Date: 06/24/2005

Operation	Construction		Improvement		Other Projects	Total Project Costs	Gross Value of Operation	Total Cost as a percent of Gross Value	Comments
	Miles	Cost	Miles	Cost					
C.C. Rider	0.0	\$0	0.0	\$0	\$0	\$0	\$760,000	0.0%	
Chazmo	1.1	\$63,000	0.0	\$0	\$9,000	\$72,000	\$1,600,000	4.5%	
Das Butte	0.6	\$35,000	0.0	\$0	\$0	\$35,000	\$2,000,000	1.8%	
East Rogers	1.1	\$50,000	0.8	\$51,000	\$5,000	\$106,000	\$1,000,000	10.6%	
Helibates	0.0	\$0	3.5	\$120,000	\$0	\$120,000	\$1,350,000	8.9%	
Howdy Doty	1.1	\$67,000	5.2	\$71,000	\$0	\$138,000	\$2,080,000	6.6%	
Moo Goo Pon Gon	1.5	\$50,000	0.6	\$26,000	\$5,000	\$81,000	\$1,200,000	6.8%	
Mystree Thin	1.2	\$75,000	0.6	\$22,000	\$5,000	\$102,000	\$1,320,000	7.7%	
Nehalem Crossing	2.7	\$282,000	2.5	\$128,000	\$10,000	\$420,000	\$2,600,000	16.2%	
Seven C's	0.2	\$12,000	3.5	\$135,000	\$5,000	\$152,000	\$2,600,000	5.8%	
SoMoNoFo	0.8	\$48,000	0.7	\$29,000	\$0	\$77,000	\$2,250,000	3.4%	
Sunday Drive	2.7	\$121,500	5.0	\$192,500	\$0	\$314,000	\$1,680,000	18.7%	
Three Blind Mice	2.6	\$156,000	0.0	\$0	\$0	\$156,000	\$1,710,000	9.1%	
Topo Bell	2.1	\$118,000	1.2	\$42,000	\$0	\$160,000	\$1,840,000	8.7%	
Zeus's Boots	1.12	\$172,000	0.0	\$0	\$0	\$172,000	\$2,188,000	7.9%	
Total:						\$2,105,000	\$26,178,000	8.0%	

Alternate Operations

Park Place	0.8	\$35,000	0.0	\$0	\$0	\$35,000	\$1,240,000	2.8%	
Toucan Sam	0.3	\$15,000	0.0	\$0	\$0	\$15,000	\$1,575,000	1.0%	
Gregorian Cant	0.9	\$41,000	0.0	\$0	\$13,000	\$54,000	\$700,000	7.7%	

Road Projects Not Associated with Commercial Forest Management Operations

						\$0			
						\$0			
						\$0			